1. A method for shaping a photonic signal, the method comprising:

receiving a parent signal having a parent coherence length and being characterized by a parent duration;

splitting the parent signal into a first daughter signal and second daughter signal;

delaying the second daughter signal with respect to the first daughter signal by a delay time; and

interacting the first daughter signal with the second daughter signal photonically during an interaction duration less than the coherence length.

2. The method of claim 1, wherein the interaction is selected from coherence notching in which the interaction comprises destructive interference in an overlapping time period, and coherence spiking in which the interaction comprises constructive interference in an overlapping time period.

3. The method of claim 1, wherein the delay time is less than the parent duration.

4. The method of claim 1, wherein the delay time is substantially equal to the parent duration.

5. The method of claim 1:

wherein interacting further comprises providing a descendant signal;

further comprising repeating the splitting delaying and interacting steps with the descendant signal; and

wherein the descendant signal corresponds to a descendant duration greater than the parent duration.

6. The method of claim 1, wherein the first and second daughter signals are coherent with one another.

7. The method of claim 1, wherein the parent signal has a coherence time corresponding thereto and wherein the first and second daughter signals share the coherence time.

8. The method of claim 1, wherein the interaction endures for an interaction time selected to provide the interaction before the end of the coherence time with respect to the first daughter signal.

9. The method of claim 1, wherein the interaction further comprises recombining the first and second daughter signals to form a descendant signal comprising a first region having a peak duration and second region having a base duration different from the peak duration.

10. The method of claim 9, wherein the base duration and the peak duration are different from the parent duration.

11. The method of claim 9, wherein the peak duration is less than the base duration.

12. The method of claim 9, wherein the peak duration is substantially less than the base duration and substantially less than the parent duration.

13. The method of claim 9, wherein the peak duration corresponds to a comparatively large amplitude and the base duration corresponds to a comparatively small amplitude.

14. The method of claim 1, wherein the daughter durations are substantially equal to the parent duration.

15. The method of claim 1, further comprising:

combining the first and second daughter signals to form a descendant signal; and

splitting the descendant signal into descendant daughter signals and interacting the descendant daughter signals.

16. The method of claim 1, further comprising attenuation of a descendant signal formed from the first and second daughter signals.

17. The method of claim 1, further comprising:

combining the first and second daughter signals to form a descendant signal; and

splitting the descendant signal into at least two descendant daughter signals.

18. The method of claim 17, further comprising combining the at least two descendant daughter signals into a second descendant signal.

19. The method of claim 1, in which interaction comprises forming a descendant signal having a peak region of a comparatively greater amplitude, flanked by a base region of a comparatively lesser amplitude.

20. The method of claim 19, wherein the base region further comprises a shoulder region, and a skirt region.

21. The method of claim 20, wherein the peak region, the shoulder region, and the skirt region are characterized, respectively, by a peak amplitude, a shoulder amplitude, and a skirt amplitude, of respectively descending values.

22. The method of claim 21, wherein operating further comprises splitting the descendant signal into descendant daughter signals and recombining the descendant daughter signals to form a second descendant signal.

23. The method of claim 21, further comprising selecting a number of generations and encoding a generational descendant signal up to the number of generations, in order to provide a peak region having a substantially shortened peak duration and a base region below a noise level.

24. The method of claim 1:

wherein the interaction further comprises forming a descendant signal resulting from the first and second daughter signals; and

further comprising operating on the descendant signal to provide a function generation.

25. The method of claim 1, further comprising shaping the photonic signal to reduce the energy density in a carrier medium of the signal.

26. The method of claim 1, further comprising providing a plurality of photonic signals, with corresponding interactions of daughter signals, and increasing information throughput in a carrier medium of the plurality of signals while limiting the energy density in the carrier medium by reducing the duration of a corresponding plurality of descendant signals resulting from the plurality of photonic signals.

27. The method of claim 1, wherein the photonic signal is a pulse.

28. The method of claim 1, in which the parent signal has a characteristic length, corresponding to the parent duration, and the first and second daughter signals have a coherence length less than the characteristic length.

29. The method of claim 1, wherein the first and second daughter signals have substantially identical wave forms with respect to each other and to the parent signal, without consideration of amplitude.

30. A method for shaping a photonic signal, the method comprising:

receiving a parent signal having a parent coherence length and being characterized by a parent duration;

splitting the parent signal into a first daughter signal and second daughter signal;

delaying the second daughter signal with respect to the first daughter signal by a delay time; and

interacting the first daughter signal with the second daughter signal photonically, during an interaction duration less than the coherence length, to produce an effect selected from coherence notching and coherence spiking.

31. The method of claim 30, wherein the delay time is selected from the group consisting of a first time period less than the parent duration, a second time period substantially equal to the parent duration, and a third time period, greater than the parent duration.

32. The method of claim 31, wherein interacting further comprises providing a descendant signal corresponding to a descendant duration greater than the parent duration.

33. The method of claim 32, wherein the parent signal has a coherence time corresponding thereto and shared by the first and second daughter signals.

34. The method of claim 33, wherein the interaction endures for an interaction time selected to provide the interaction before the end of the coherence time with respect to the first daughter signal.

35. The method of claim 34, wherein the interaction further comprises recombining the first and second daughter signals to form a descendant signal comprising a first region having a peak duration and second region having a base duration different from the peak duration.

36. The method of claim 35, wherein the base duration and the peak duration are different from the parent duration.

37. The method of claim 36, wherein the peak duration is less than the base duration.

38. The method of claim 37, wherein the peak duration is substantially less than the base duration and substantially less than the parent duration.

39. The method of claim 36, wherein the peak duration corresponds to a comparatively large amplitude and the base duration corresponds to a comparatively small amplitude.

40. The method of claim 35, further comprising splitting the descendant signal into descendant daughter signals and interacting the descendant daughter signals to form a multi-generational descendant signal.

41. The method of claim 1, further comprising attenuating the multi-generational descendant signal to reduce noise associated therewith.

42. The method of claim 35, further comprising splitting the descendant signal into at least two descendant daughter signals.

43. The method of claim 42, further comprising interacting the at least two descendant daughter signals into a second descendant signal to surround a secondary peak region flanked by a secondary base region, the secondary base region comprising a shoulder region, and a skirt region.

44. The method of claim 43, wherein the peak region, the shoulder region, and the skirt region are characterized, respectively, by a peak amplitude, a shoulder amplitude, and a skirt amplitude, of respectively descending values.

45. The method of claim 44, further comprising operating on the descendant signal to provide a function generation.

46. The method of claim 45, wherein operating further comprises splitting the descendant signal into descendant daughter signals and recombining the descendant daughter signals to form a second descendant signal.

47. The method of claim 46, further comprising selecting a noise level; selecting a number of generations; encoding a generational descendant signal up to the number of generations, in order to provide a peak region having a substantially shortened peak duration and a base region below a noise level.

48. The method of claim 47, wherein the generational descendant signal is configured to reshape the photonic signal to reduce the energy density in a carrier medium configured to receive the generational descendant signal.

49. The method of claim 48, further comprising repeating the steps of providing, splitting, and interacting, and further comprising increasing information throughput in a carrier medium configured to carry the corresponding generational descendant signals.

50. The method of claim 47, wherein the signal is a pulse.

51. The method of claim 50, in which the parent signal has a characteristic length, corresponding to the duration, and the first and second daughter signals have a coherence length less than the characteristic length.

52. The method of claim 51, wherein the first and second daughter signals have substantially identical wave forms with respect to each other and to the parent signal, without consideration of amplitude.

53. An apparatus for shaping photonic pulses, the apparatus comprising:

a beam splitter configured to split a parent signal into first and second daughter signals, coherent with each other;

a beam combiner configured to receive the first and second daughter signals from the beam splitter and to provide an interference interaction between the first and second daughter signals during an interaction time;

a delay path extending between the splitter and combiner, configured to delay the second daughter signal for a delay time;

an adjuster configured to adjust the delay time; and

a beam source for providing the parent signal, and having a coherence length selected to have a coherence time at least as great as the interaction time.

54. The apparatus of claim 53, wherein the adjuster is adjustable between a first position creating substantial overlap between the first and second daughter signals and a second position creating a substantial gap between the first and second daughter signals.

55. The apparatus of claim 54, further configured to produce a characteristic time effective to selectively provide constructive and destructive interference between the first and second daughter signals.

56. The apparatus of claim 55, further configured to divide the energy of the first and second daughter signals between a peak portion having a comparatively greater amplitude and a base portion having a comparatively lesser amplitude.

57. The apparatus of claim 56, further configured to reduce transmission energy density corresponding to the parent signal.

58. The apparatus of claim 57, further configured to increase the information density in a carrier medium configured to receive an output resulting from the parent signal.

59. The apparatus of claim 57, further configured to shape an output signal to a match a length of an electronic legacy signal.

60. The apparatus of claim 59, further comprising a compact, adjustable, integrated splitter and combiner.